BARG Newsletter April 2026

Ballarat Amateur Radio Group Inc. #6953T
April 2026 Monthly Newsletter

Next Meeting
11:00AM Saturday 2nd May 2026
At the Airport - All Welcome

Contacting us

BARG@BARG.ORG.AU

We're on the web.

www.barg.org.au

https://twitter.com/vk3_barg

https://www.facebook.com/groups/VK3BML/

The VP's Ramblings 3
FreeDV 4
BARG Thursday Morning Coffee Club 4
Ham Radio History: How RTTY Became the First Mainstream Digital Data Mode 5
Fluidics in Semiconductors 8
Cooling the Chips of the Future 8
BARG COFFEE MORNING Presentation on MAY 7TH 9
What's New at Digital Library of Amateur Radio & Communications - April 2026 10
ACMA Assist & MyID and how it affects your Callsign 11
Why Is It Called the Pink Moon? 11
FAST- China's Five-hundred-meter Aperture Spherical Telescope 12
This Space Needs Filling. 13
Mills On The Air 2026 15
VK SUMMIT ALBURY 2026 16
The Moorabbin & District Radio Club Annual Hamfest 2026 16
Magazine Reviews 17
Amateur Radio Review Vol 94 No 2 2026 17
SPRAT Review Spring 2026 18
Silicon Chip Review April 2026 19

Front Page; Pink Moon (See Page 11), Victoria Appleby, (Step-Daughter VK3DMK)

Times and dates of nets as below

Club Nets: VHF NET: Every Tuesday Night at 8 pm on 146.750 MHz - VK3RBA

HF NET: Every Thursday Night at 8 pm on 3.608 MHz - VK3BML

6m NET: Every Tuesday Night at 8:30 pm on 53.650Mhz RX / 52.650Mhz TX - FM with a 91.5 tone - VK3RWU

LINKED REPEATERS: *The local VK3RBA-70cm repeater on Mt Buninyong is part of a network of linked repeaters covering North-Western Victoria.*
Access details for this repeater have recently changed.
For full details of this linked network and access details see https://www.qrz.com/lookup/vk3rba
You can listen to the system live http://vk3rba.dyndns.org:441/
This linked system may be accessed via IRLP node 9503

BARG inc. OFFICE BEARERS

President	Vacant	Ordinary Member	Tom George VK3DMK
Vice President	Colin Consiglio VK3NCC	Ordinary Member	Ian Fairweather VK3YFD
Secretary	Peter Westgarth VK3APW	Ordinary Member	Doug Ellery VK3DRE
Treasurer	Jeff Rickerby VK3JHR	Ordinary Member	David Martin VK3KQT
Ordinary Member	Craig Cook VK3KG	Ordinary Member	Ben Daniel VK3NRD

The VP's Ramblings

Greetings everyone,

The world is still here, that's a good start...

Self-booking for the monthly BARG Dining nights is working really well and is helping the organiser remain sane in keeping track of numbers.... The last event was at the Flyinghorse Bistro; the food all arrived in good order and condition. Did you see the pictures on our Facebook page? There is a quick access link leading to the booking form on the BARG Web page to make life easier. Can you make it for May?

Unfortunately, I haven't been able to make the Thursday coffee morning gatherings at the club rooms. There is a core group that is holding the bastions, and they would welcome any and all who would like to spend a couple of hours of good company.

Peter/PWG is planning a presentation on FreeDV at an upcoming general meeting. This will be scheduled based on his availability.

Keep you eye on club email list for this and other important notices.

I would like to welcome 3 new members who have joined in recent weeks; Ian, Joshua and Leon.

Goal for 2026 *-- Consider inviting someone new to come along for a meeting?*

Thought for the month: *The 2m and 80m weekly nets are a great way keep contact with other members as well as other regular check-ins. Your investment of 30 minutes is worthwhile, pop up and say hello, especially if you haven't been able to make recent meetings.*

My continued thanks to the committee and members who keep things ticking over.

Stay well, Cheers, 73

Colin VK3NCC

The next BARG General Meeting
11:00AM Saturday 2nd May 2026

A Gold Coin Donation for midday BBQ.

FreeDV

FreeDV activities continue 80m after the BARG 80m Net.

The 80m net is every Thursday Night at 8 pm on 3.608 MHz - VK3BML

https://vu3dxr.in/getting-started-with-freedv-a-beginners-guide-to-digital-voice-on-amateur-radio

BARG Thursday Morning Coffee Club

Commences at 10:00AM at the BARG Club Rooms every Thursday.
Ballarat Airport - All Welcome.

Ham Radio History: How RTTY Became the First Mainstream Digital Data Mode

Posted by Mark Haverstock, K8MSH from: About OnAllBands, An Amateur Radio blog powered by **DX Engineering**,

Radio Teletype (RTTY) became a popular digital mode in amateur radio through a mix of postwar circumstances, technical curiosity, and a group of operators who looked at a 180-pound machine and thought, “This would look cool in my radio room.” Its growth reflects both the experimental spirit of ham radio and the fact that, sometimes, if it makes noise, prints letters, and connects to a transmitter, hams will find a way to make it communicate with the world.

History of RTTY, Part 1

The origins of RTTY can be traced back to the late 19th and early 20th centuries with the invention of teleprinters, also known as teletypewriters. These machines sent typed text over wires using electrical signals encoded in standardized formats, such as the Baudot code. By the 1920s and 1930s, teleprinters were already well established in wireline communications, particularly for news agencies, government operations, and business.

However, early experiments in transmitting teleprinter signals over radio faced several challenges. Noisy radio frequencies were prone to interference, making reliable transmission of digital signals difficult. But soon, engineers discovered that frequency-shift keying (FSK)—a method where two distinct tones represent binary states—was particularly robust against noise. Instead of transmitting simple on/off signals (as in Morse code), RTTY used two tones to represent “mark” and “space,” corresponding to binary 1s and 0s. This made the system far more reliable over long distances and under poor propagation conditions.

Siemens t37h (1933) without cover

But the real breakthrough for RTTY came during World War II. The military needed secure, fast, and reliable communication methods that could operate over long distances without relying on physical infrastructure. RTTY met this need perfectly; it allowed typed messages to be sent quickly and automatically, reducing human error. Also, RTTY systems could be encrypted, adding a layer of security that voice communications often lacked.

RTTY for Hams

The story really picks up after World War II. During the war, governments produced massive amounts of teleprinter equipment for communication networks. When peace returned, much of this gear was declared surplus and sold at a low price. Never ones to ignore a good deal, amateur radio operators quickly scooped them up. Teleprinters, which had once been the size of a small refrigerator and about as quiet as an impact drill, suddenly became accessible to everyday hams.

At the same time, hams were ready for something new. Morse code (CW) had been the backbone of amateur radio for decades, and voice communication was becoming more widespread. But both required real-time listening and interpretation. RTTY offered something different: you could type a message, hit a key, and it would magically appear on someone else’s machine miles—or even continents—away. It was like texting, but with a very heavy phone.

In the late 1940s and 1950s, small groups of enthusiasts began experimenting with RTTY on amateur bands. These early adopters shared tips, schematics, and war stories (sometimes literally) through newsletters and radio clubs. A community formed and they standardized operating practices, including a 170 Hz shift and a baud rate of 45.45 for 60 WPM machines.

Watch this video of the Teletype Model 26 KSR (Keyboard Send-Receive) at the Museum of Communications in Seattle, Washington: https://youtu.be/iNbhOpFOZgw?si=3Bg2K7Pl6_yB4pDQ

The technical challenge of RTTY also made it irresistible. Amateur radio operators love tinkering, and RTTY gave them plenty to tinker with. Operators had to figure out how to generate and decode frequency-shift keyed signals, interface mechanical devices with electronic circuits, and keep everything synchronized. It was equal parts engineering project and MacGyver-type improvisation. If something broke, you didn't call tech support; you grabbed a screwdriver and hoped for the best.

One of RTTY's biggest advantages was its reliability. Voice signals could fade, distort, or disappear entirely under poor conditions, leaving operators repeating "Say again?" RTTY, on the other hand, used distinct tones that could often be decoded even under less-than-ideal conditions. As long as the signal made it through in some form, there was a good chance the message would print correctly. This made RTTY especially popular for long-distance (DX) communication. It turns out that when you're trying to talk to someone halfway around the world, having your message arrive as readable text instead of static is a big plus.

The evolution of technology in the 1960s and 1970s also contributed to RTTY's continued growth. While early systems relied on mechanical teleprinters, later developments introduced electronic terminals and more compact equipment. Solid-state electronics made RTTY setups more reliable and easier to maintain. The introduction of personal computers in the late 20th century further transformed RTTY operations. Software could emulate teleprinters, generate tones, and decode signals, eliminating the need for large machines. This made RTTY accessible to a much wider audience.

RTTY also changed the social dynamic of ham radio. Because communication was typed, it became more structured and less dependent on quick thinking or smooth talking. You didn't need a great speaking voice or perfect timing—you just needed to type. It also helped bridge language barriers, since written text is often easier to interpret than spoken words accompanied by QRM. However, it also introduced a new problem: the occasional operator who typed…very…slowly…while everyone else waited.

Contesting played a major role in RTTY's popularity. Ham radio contests are events where operators try to make as many contacts as possible, and RTTY turned out to be a perfect solution. Standardized messages could be sent quickly and accurately, enabling high-speed operation. Dedicated RTTY contests began to appear, drawing participants from around the world. For many operators, the appeal was simple: more contacts, less shouting into a microphone, and fewer chances to accidentally say something embarrassing on the air.

RTTY or Not

RTTY's limitations eventually became apparent. It used a relatively wide bandwidth, was a bit inefficient, and lacked advanced error correction. As digital signal processing and personal computers became more accessible in the late 20th century, newer modes began

to outperform RTTY. However, by that time, RTTY had already secured its place in history as the first widely adopted digital radio communication mode.

More efficient digital modes like FT8, PSK31, and JS8Call began to appear, offering better performance. Modern modes can operate at or below the noise floor, but RTTY requires a relatively strong, clear signal. As for bandwidth, PSK31 uses only 31 Hz, while RTTY typically uses 170 Hz or more, making newer modes far more spectrum-efficient. The new digital modes use computer soundcards and software such as WSJT-X or Fldigi, eliminating the need for old mechanical teletype machines or dedicated hardware TNCs. While RTTY is still used in contests, modern digital alternatives are more popular for weak-signal work, keyboard-to-keyboard ragchews, and quick data exchanges

Despite digital improvements, the charm of the original machines never fully disappeared. Some enthusiasts still enjoy restoring and operating vintage teleprinters, partly for nostalgia and partly because nothing says “I love RTTY” like maintaining a device that sounds like a slow-firing machine gun, punctuated by bells.

RTTY Nitty-Gritty

Ultimately, RTTY became the first mainstream digital data mode due to a convergence of factors: the availability of teleprinter technology, the development of robust transmission methods such as frequency-shift keying, wartime communication demands, and the ease of adaptation to existing communications infrastructure. Its widespread use in military, commercial, and amateur radio applications established it as a foundation in the evolution of digital communications. Consider it the “grandfather” of modern digital modes in ham radio.

Even today, in an age of advanced digital modes and lightning-fast communication, RTTY remains in use. Most modern transceivers, like the **Icom IC-7610**, even have a built-in RTTY mode. It may no longer be the newest or most efficient option, but it holds a special place in the history of amateur radio. After all, it was one of the first steps into the digital world—and it did it with style, noise, and a lot of moving parts.

The IC-7610 has built-in RTTY decoders and encoders. Using a USB keyboard and the contents set in the RTTY TX memory, you can do basic RTTY operations without using an external device or software. (Image/Icom)

We can agree that Morse code arrived first. But as we examine the evolution of digital in amateur radio, it’s apparent that digital data modes such as PSK31, FT8, JS8Call, Packet Radio, and Olivia have their roots in RTTY rather than CW. RTTY is the bridge between the past and present of digital radio.

Want to learn more about RTTY basics?

Check this OnAllBands article written by Ed Muns, W0YK, **“Getting Started in RTTY.”**

Cheers. Mark Haverstock, K8MSH

Fluidics in Semiconductors

Cooling the Chips of the Future

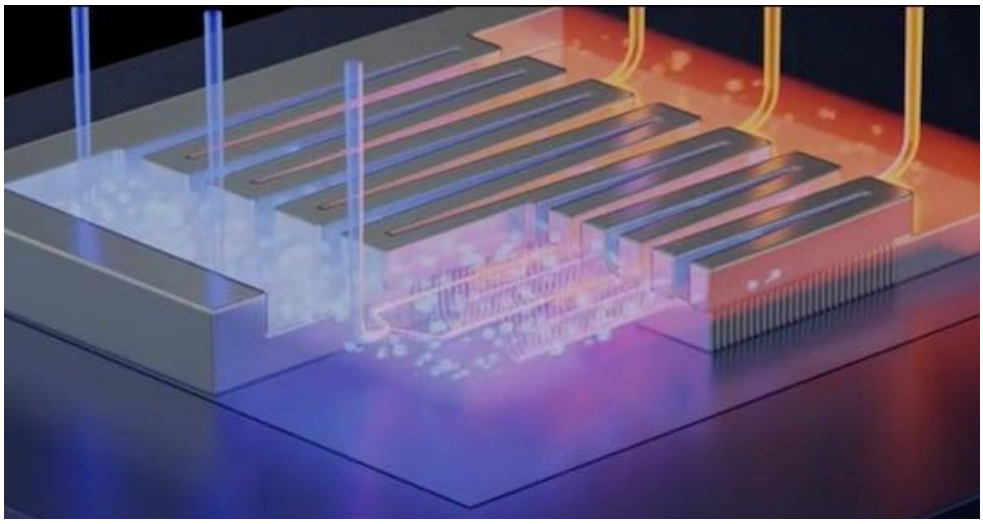
From a link contributed by Rick, VK3FIVE

For decades, cooling electronics has been a blunt exercise: heat sinks, fans, airflow, and if things get serious, liquid cold plates. That approach is now running out of puff.

Modern AI and high-performance processors generate staggering heat densities. We're talking hundreds of watts from a package not much larger than a postage stamp. Air cooling is already on life support, and even conventional liquid cooling is starting to struggle.

One emerging solution is microfluidic cooling — essentially plumbing built into the semiconductor itself.

Microfluidic Cooling a cutting-edge technology that utilizes the principles of microfluidics to effectively dissipate heat from electronic devices and systems. This technique, which involvescirculating coolant through microscale channels, has addresses the growing thermal management challenges associated with compact and high-performance electronic devices.



Microfluidic channels are placed very close to the transistor's hot spots, enabling heat to be extracted in exactly the right place for maximum efficiency. Image used courtesy of EPFL

Companies like Microsoft and École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland are researching this technology to deal with AI chips that simply cannot be cooled effectively by conventional means.

Using semiconductor fabrication techniques, tiny liquid channels are etched into the silicon substrate. Coolant flows through these channels in patterns optimised for where heat is generated — often designed using AI tools based on real thermal maps.

As always, there are trade-offs. Manufacturing is more complex, reliability is critical, and the technology is still largely in research and prototype stages.

This isn't something we'll see in amateur gear or consumer radios anytime soon, but the direction is clear.

Why This Matters to Radio Amateurs

Thermal limits already constrain RF power devices, CPUs in SDRs, and high-density digital systems. As electronics continue to pack more power into smaller spaces, advanced cooling will become part of the design — not an afterthought.

Microfluidic cooling may eventually influence everything from data centres to compact high-power RF systems. Today it's bleeding-edge research; tomorrow it may quietly shape the hardware we all use.
https://news.microsoft.com/source/features/innovation/microfluidics-liquid-cooling-ai-chips/

A 50-Fold Performance Improvement
To demonstrate their chip's viability, the researchers built an AC-DC rectifier circuit made from four Schottky diodes. This type of circuit would typically require a large heat sink, but with the integrated cooling system, the chip sits on a small PCB which consists of three layers with channels carved into it for coolant delivery.
The results of this test show that hot spots on the device with densities of over 1,700 cm^2 can be cooled with only 0.57 W/cm^2 of pumping power—a 50-fold increase in performance in contrast to previously reported microfluidic cooling techniques.

https://www.allaboutcircuits.com/news/researchers-combine-transistor-and-cooling-system-single-chip/
https://blog.darwin-microfluidics.com/glossary/microfluidic-cooling-microfluidics-explained/

BARG COFFEE MORNING Presentation on MAY 7TH

A PRESENTATION WILL BE GIVEN BY Steve Kennedy VK6SJ, COMTEK.

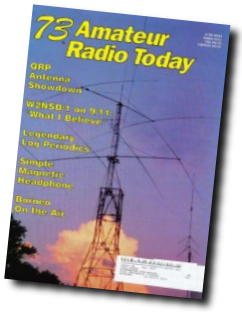
The subject Amateur Radio, Remote Control of Radio Gear.

https://comtekradio.com.au/

What's New at Digital Library of Amateur Radio & Communications - April 2026

By Kay Savetz K6KJN (From Zero Retries 0246,online amateur radio newsletter)

Greetings from DLARC World Headquarters in sunny Oregon, where I am thrilled to announce that the DLARC free online ham radio library now has a selection of the "big three" American amateur radio magazines: CQ, QST, and 73.



Here's the TL;DR: we have every issue of 73 Amateur Radio (516 issues published from 1960-2003), 530 issues of QST from its founding in 1915 through 1961, and now 199 issues of CQ Magazine published from 1946 through 1963! The "big three" U.S. amateur radio magazines.

The non-TL;DR "give me more information!" version is that DLARC is now home to those 199 issues of CQ Amateur Radio Magazine, published from 1946 through the end of 1963. The pre-1964 issues have fallen into the public domain, so they're available for us all to read and use.

CQ's final issue was published in October 2023, and publisher Dick Ross (K2MGA) died a few months later. The legal status of CQ Magazine is in flux. I'm not sure anyone knows yet what will happen to the material published from 1964 through 2023 — but having access to the first nearly two decades of the magazine is huge news. Many of the issues came to DLARC via the SPARK Museum of Electrical Invention, and some scans came from the University of Illinois Chicago.

But there's still work to be done: CQ magazine launched in 1945. DLARC doesn't yet have January 1945 (volume 1 number 1) through March 1946 (volume 2 number 3), most of volume 3, and a smattering of issues in volumes 4, 11, and 12. Those are now in the DLARC Wantlist.

I've told the story of 73 here a few times: before Wayne Green (publisher of 73) died, he contributed a complete set of the magazine to Internet Archive and asked that they be made freely available. That collection was just about the first thing I added to DLARC when the project launched.

The last of the big three, arguably the best known, is QST, which has been published by the ARRL since 1915. The ARRL is a member organization, and they work hard to create great information exclusively for their members, which is 1000% their right and privilege. Like CQ, the oldest issues are old enough to be in the public domain, which means the 530 issues published before 1962 are here to enjoy. (When you click the link, you'll see something like 609 results. Some of those are indexes, not issues. Indexes are available all the way through 2001.)

There's more in the works (soon!) for DLARC. I'm preparing a post for the Internet Archive blog for World Amateur Radio Day, April 18, that will announce the other new stuff. In the meantime, there are plenty of ham radio magazines to keep you busy.

Digital Library of Amateur Radio & Communications is funded by a generous grant from Amateur Radio Digital Communications (ARDC) to create a free digital library for the radio community, researchers, educators, and students. If you have questions about the project or material to contribute, contact me at kay@archive.org.

BARG Newsletters on DLARC. https://archive.org/search?query=barg

ACMA Assist & MyID and how it affects your Callsign

Contributor Colin VK3NCC

This topic of ACMA Assist & MyID and how it affects your Callsign came up during discussion at a recent BARG Thursday morning social coffee meet at the clubrooms.

Here is some information that may clarify.

Under the new **Amateur Radio Class Licensing** system, most amateur radio operators no longer need to pay annual license fees. However, this comes with a new requirement to **reconfirm your callsign every five years** to keep it active.

Key points:

- Annual fees are gone for individual stations (though they still apply to Repeaters and Beacons).
- You must reconfirm your intention to use your callsign every five years. Failure to do so may result in your callsign being returned to the public pool.
- While the ACMA may send reminders, the onus is on **you** to keep your contact details updated and ensure your callsign remains current.
- If you held a callsign when the Class License started (February 2024), your first reconfirmation isn't due until **2029**, but you should set up your access now.

Action Required: Set Up ACMA Assist

The ACMA has a self-service portal called **ACMA Assist**. You should register now to manage your qualifications and contact information. You also need an Australian government MyID to access ACMA Assist.

How to get started:

1. **Create a myID:** You need a myID account to prove your identity securely. Read about it here: https://www.myid.gov.au/
2. **Register for ACMA Assist:** Use the ACMA Assist Registration Guide https://www.acma.gov.au/acma-assist-registration-guide-0 to link your identity to the portal.
3. **Update Details:** Ensure your email and mailing addresses are correct so you receive future reconfirmation notices.

Note: If you have never had an ACMA profile before, then the process should be painless - however there have been some reports of some problems for people with multiple profiles. Contact the ACMA directly for assistance.

Regards Colin VK3NCC

Why Is It Called the Pink Moon?

The Old Farmer's Almanac draws its Full Moon names from various sources, including Native American, Colonial American, and European traditions. Traditionally, these names refer not just to the Full Moon but to the entire lunar month in which it occurs.

While the name "Pink Moon" might suggest a rosy-colored Moon, the reality is a bit less magical. The name comes from the early spring bloom of a wildflower native to eastern North America: Phlox subulata, commonly known as creeping phlox or moss phlox. This flower, often called "moss pink," was in full bloom around April's Full Moon.

Thanks to this seasonal connection, the April Full Moon became known as the Pink Moon! https://www.almanac.com/content/full-moon-april

FAST- China's Five-hundred-meter Aperture Spherical Telescope

Contribution Tom VK3DMK

For more than half a century, the name Arecibo was synonymous with giant radio telescopes. Built into a sinkhole in Puerto Rico and commissioned in 1963, the Arecibo Observatory became one of the most recognisable scientific instruments on Earth.
Today, the mantle of the world's largest filled-aperture radio telescope belongs to China's FAST — the Five-hundred-meter Aperture Spherical Telescope.

FAST is built in a natural karst (*) depression in Guizhou Province, southwest China. With a dish diameter of 500 metres, it dwarfs Arecibo's 305-metre reflector. Construction began in 2011, and the telescope entered full scientific operation in 2020.

Arecibo's surface was largely static, with steering achieved by moving the receiver platform. FAST uses more than 4,000 adjustable reflector panels that actively reshape part of the spherical dish into a paraboloid aimed toward the target being observed.

Because sensitivity depends heavily on collecting area, FAST is the most sensitive single-dish radio telescope ever built. It can detect weak pulsars, observe distant hydrogen clouds, study Fast Radio Bursts, and conduct deep sky surveys.

Arecibo possessed a powerful planetary radar transmitter. It could bounce radio signals off Venus, Mercury, asteroids and other solar system objects, then analyse the returning echoes. FAST is primarily a receiving telescope.

Arecibo's achievements included discovery of the first binary pulsar, confirmation work supporting gravitational wave theory, radar mapping of Venus, asteroid tracking, and the 1974 Arecibo Message. FAST has already delivered hundreds of pulsar discoveries and major survey results.

FAST can rightly be seen as the spiritual successor to Arecibo — larger, more advanced and more sensitive. Arecibo, however, remains legendary and paved the way for instruments like FAST.

Feature	FAST	Arecibo
Dish Diameter	500 m	305 m
Status	Active	Collapsed 2020
Sensitivity	Highest single dish	Former leader
Surface Control	Active adjustable panels	Mostly fixed
Radar Transmitter	No	Yes

Sky Coverage	Greater	More limited

* A natural karst depression, commonly known as a doline or sinkhole.
https://en.wikedia.org/wiki/Five-hundred-meter_Aperture_Spherical_Telescope
https://fast.bao.ac.cn/

This Space Needs Filling.

- Do you have an electronic or radio story to tell?
- Some images of past club or your own field days?
- A new piece of gear you have bought and would like to tell us about.
- Constructed the latest radio kit from AliExpress or wherever.
- You would like to see an article on a subject you are interested in, or have found an article that you think BARG Newsletter readers would like to read about.

THEN LET ME KNOW.

Any of these suggestions would make a welcome contribution to the feeding of this BARG Newsletter.

(Not much of a writer/author? No problem, cobble what you have together and let me know, I'll massage it into a readable tome.

WIRELESS INSTITUTE OF AUSTRALIA ABN 56 004 920 745
Phone (03) 9729 0400
Email nationaloffice@wia.org.au

MEMBERSHIP APPLICATION

Send to **WIA Membership**
PO Box 2042
Bayswater VIC 3153

Mr/Mrs/Ms .....
Given Names .....
Family Name .....
Preferred Name .....
Street Address .....
City/Town ..... State ..... Postcode ..... Country .....
Callsign ..... Date of Birth dd/mm/yyyy .....
Occupation .....

Tick which period and fee.

Membership	☐ 1 year	☐ 5 year
Member	☐ $95	☐ $451
Overseas Member	☐ $105	☐ $500
Concession Member*	☐ $80	☐ $380
Student**	☐ $35	
Additional Family Member***	☐ $36	

* Please provide pension health benefits card number.
** Please provide evidence below of being a full-time student.
*** Please provide name and callsign of primary family member residing at the same address.

Provide concession details

.....

.....

Home Telephone .....
Work Telephone (optional) .....
Mobile Telephone (optional) .....
Email Address .....

I apply for membership of the Wireless Institute of Australia and agree to be bound by its constitution (available on the WIA Website).

I enclose ☐ Cash ☐ Cheque or ☐ Money Order for $_____
or authorise payment of $ _____ by way of debit
to my ☐ MasterCard ☐ Visa Credit Card CVC
Card No. ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐
Expiry Date ____/____ Name on Card .....
Signature of Applicant ..... Date ____/____

Mills On The Air 2026

Mills On The Air
Mills On The Air
2026
Celebrating 30 Years
Saturday 9th to Sunday 10th May
CALLING ALL RADIO AMATEURS!!
The 30th anniversary of Mills on the Air in conjunction with National Mills Weekend (run by S.P.A.B.)
This year we are inviting Mills and Radio Amateurs from around the World to take part in this unique event. Bringing Amateur Radio to locations that are typically seen only by Mill enthusiasts and Walkers!
Mills on the Air began back in 1996, when our founder happened to spot a call out on the RSGB Newsfeed for a few Amateurs to set up at a select few Mills around the country to operate on the National Mills Day.
This turned into a decades long event that now had more than 300 operators and clubs taking part from the UK, The Netherlands, Finland, Australia, South Africa and many more locations!
It is free to take part, but we do encourage you to give a donation to your local Mill to help them with their fundraising efforts. Many are run by volunteers and every penny helps!
We are open to all Amateur Radio Bands and Modes and this year, there are DMR groups set up specifically for us!
(more details can be found on our facebook page)
If you would like to take part, please visit our website to sign up!
www.nharg.org.uk/mota
We have regular updates on our Facebook page, including interesting histories of the Mills taking part!
www.facebook.com/MillsontheAir
Photograph by Jack Dwarswaard - Kinderdijk Polder Mill

VK SUMMIT ALBURY 2026

The Moorabbin & District Radio Club Annual Hamfest 2026

The MDRC Annual Hamfest is held in May on a Saturday. The 2026 MDRC Hamfest will be held on Saturday 9 May.

The MDRC Hamfest is widely renowned as the Biggest Hamfest in Victoria, with a huge turnout each year.

Many attendees travel great distances to attend the MDRC Annual Hamfest from Interstate and overseas.

The 2026 MDRC Hamfest will be held at

The Patterson Lakes Community Centre

54-70 Thomson Road, Patterson Lakes

Ticket sales from 9.00am. Doors open at 10.00am

Magazine Reviews

Amateur Radio Review Vol 94 No 2 2026

P4 Editorial. Roger VK2ZRH. Conventions, symposiums, a smorgasbord of amateur radio events., annually and bi-annually.

P5 Your WIA working for you. Pete VK2LP Returning Officer. WIA Board election results.

P6 WIA News. Towers On The Air, Tasmanian Ham Radio returns, Meteor Scatter applet update. List of amateur radio events in the coming months.

P8 Accessing the ACMA Assist Portal. Justin VK7TW. A step by step, screen by screen instructions on how to setup and use the ACMA Portal.

P17 Two-band transceiver for Foundation operators and new-hand constructors. Part 1. Lou VK3AQZ. A transceiver that is low cost and modular in construction suitable for a Foundation Licensee. 10Wpep, 80m and 40m, digital VFO. A comprehensive article on the rigs basic construction.

P33 Liftout Foundation Operator HF Band Plans

P42 Scouts Queensland delivers Foundation operator group training. Chris VK4CAP. Scout leaders in VK4 issued with Foundation Licenses with plans to use their exoertise with STEM among Cubs, Scouts and Adventurers.

P44 How do you feel about doing exams? An article by a group of exam participants, Andrew J. Martin, Emma Burns, Joel Pearson, Rebecca J. Collie, Roger Kennett. Identifying types of test-takers and how they can be assisted to take the exam confidently.

P46 Below 25. Alec VK2MV. The most likely kit of gear you need to get on air under several living conditions.

P49 Will the Hall of Doom reveal it, or are we cloaked in a Pall of gloom. George VK3EIP. Looks at the EMR exposure limits, how they are set and by whom. Criteria for measuring and calculating your EMR.

P54 Youngsters embracing amateur radio – resolute, resourceful, resilient – rinse and repeat. Finn VK4II and Otto VK4OTZ. Report of QTech2025 Brisbane. The authors presented a talk to attendees about their scholarly and personal activities in the field of amateur radio and IT.

P58 WestNews. Will VK6UU. From AM to FM. ABC Radio AM now all FM. A history of 6WF which began in 1924.

P61 ALARA Norma VK2YL. New members to ALARA, Yachting, Canoe Classic, From Turkey (TA) to Australia (VK) global campfire, ALARAmeet 2027, VKFF and increasing YL participation, Carmel VK2NO/VK2CAR homemade helical 2m antenna.

SPRAT Review Spring 2026

P2 Editorial. Steve G0FUW. Club website upgraded, new club transmitter under development as well as G-QRP Antenna Handbook, Treasurer, Dan M1GWZ steps down, Martin M0HKG, Secretary will take over.

P3 Club Trophies and Awards. Steve G0FUW, a list of the winners of the trophies and awards earnt by club members in the last 12 months.

P3 Update-Amplified Loop Antenna. Philip M1GWZ. Additional information on the origins of the originals design.

P4 2025 GQRP Constructors' Competition. Martin M0HK. 1st. The Sixbox QRP Transceiver, 50mW, super-regen, 6m. 2nd. A 50MHz WSPR Beacon on a card. Using dome Arduino, Si5351 and real time clock, 300mW. 3rd. A 50 and 70 MHz Dual Band Vertical. Uses a telescopic pole and some basic construction techniques. Hon mention. 6 Metre converter. Receive converter, 6m down to 10m

P7 A Whisper at 6. John G8ANJ. A WSPR homebrew on 6M. Started during COVID and refined in the following years, 200mW.

P11 4-LED Bridge and Mismatch Box. Ian G4COL. An SWR bridge with individual LED indication of mismatch for low power operation, 800mW to 5W. Includes a test box to load the SWR bridge to calibrate it.

P14 Operating QRP from the Isle of Scilly. David G4FRE. Operating QRP on rest days of a guided tour of the isles. Gear used and so improvisation needed to make it work.

P16 SSB-CW Interface Unit. Chris G3XIZ. A homebrew circuit to work around a CW fault in a FT991A transceiver.

P18 On Air Activity Report. Enzo M0KTZ. Reports from many GQRP members of their activities and contacts over the past season. Winter Sport 2025 and Chelmsley Trophy 2025.

P22 2T Aerial Matching Unit. Time G3PCJ. Using PolyVaricon capacitors and toroid transformers, makes a compact 80m to 15m matching unit.

P24 Valved QRP Report. Paddy G4MAD. Reports and circuits from members designing and operating valve QRP rigs.

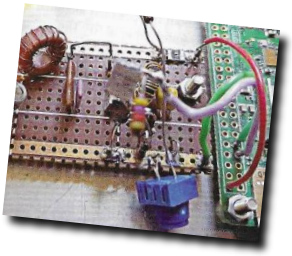
P27 The Adequate Filter. Don. ND6T. A simple AF band pass filter to help with CW reception, 700Hz. Uses some SMD components to make it small enough to sit on a small phone socket.

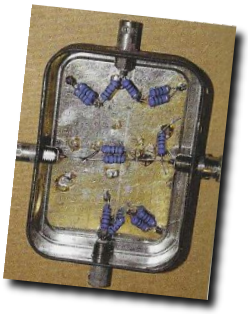
P30 Building the TinyDX. Chris M0KNF. Constructing a miniature FT8/4 QRP 1W transceiver, A design by Barb WB2CBA and presented on GitHub for all to make.

P32 VHF Manager's Report – Is VHF Dead? John G8SEQ. Little to no news on the VHF front, operating and construction.

P34 Members' News. Chris G4BUE. News from around the world of operating and building QRP gear.

P39 Replacement FT-707 VFO Knob.





Silicon Chip Review April 2026

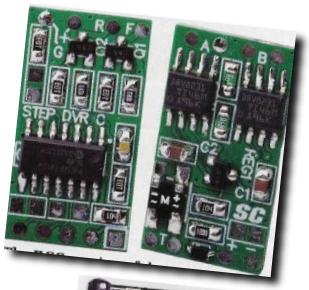
P3 Editorial Viewpoint. Nicholas Vinen. The lineup of new chips on the horizon, including Intel.

P18 Circuit Notebook. Digital Vehicle Compass, Jury-rigged 44-pin Micromite.

P20 The History of Intel. David VK3DSM. Looks at the future of chip construction and the influence of AI. Graphics advancements and past Intel Failures.

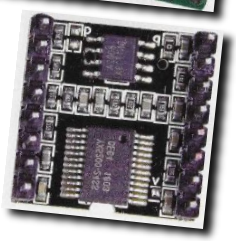
P35 PicoSDR. Charles VK3BAR. Using a Raspberry Pi to implement SRD shortwave receiver. 3 to 30MHz, AM, FM, USB, LSB, CW. Adjustable bandwidth and AGC response. Full construction and PCB layouts.

P44 Power Electronics. Part 6. DC-to-AC converters. Andrew Lavide. The basics of conversion and the functions of PWM and Current control along with harmonic suppression.



P50 Stepper Motor Driver and Decoder Tim Blythman. Article on making stepper drivers for small steppers that can be used on your model railway or miniature creation.

P56 Whole-House Environmental Logging. Julian Edgar. Monitoring your house's temperature, humidity and light levels among other things to control the comfort level in the home and how to diagnose the data collected.



P66 100W Calliope Amplifier. Phil Prosser. An upgrade of the Hummingbird amplifier from December 2021. Improved performance 100W with +/- 34Vdc, 1Hz to 150KHz frequency response, <0.005% THD with 32W into 8Ohms.

P78 Micromite-based Music Player. Gianni Pallotti. A multi format digital player using the DFPlayer Mini Module with LCD Touch Screen.

P84 Serviceman's Log. Dave Thompson. Heat Gun, Electric Cooktop, Electric fence repair.

P92 Vintage Electronics. Dr Hugo Holden. Tektronix 2465B Oscilloscope and electrolytic capacitor ageing. Resurrecting an old classic analog scope, and problems with replacement components.

Are you sweating while you're putting fuel into your car?

Feeling sick when you see the total?

You've probably caught the 2026 strain of the…

CAR OWNER VIRUS……

Ballarat Amateur Radio Group Inc
Registration Number A0006953T
ABN 44 247 200 143
Application for Club Membership

This completed document can be emailed to the Secretary at BARG@BARG.ORG.AU, or brought along to a face to face meeting.

Surname: _____ **Given Names:** _____

Callsign: _____

Are you a financial member of WIA?: **Yes** **No** *(Required for Insurance purposes)*

Partner's Name:_____

Residential Address: _____

Postcode:_____

Postal Address: _____
(If different to above)

Telephone;
*(Work)*_____ (*Home*) _____ (*Mobile*)_____

Email Address_____

Newsletters and Club information will be sent to your email address. If you require Special Club notices and Newsletters to be delivered by Australia Post to your mailing address, this will attract an additional cost of $30 per annum.

If the Club decides to publish a Club Directory, are you willing to have your Given name, callsign and telephone number? Please indicate: **Yes** **No**

By applying for membership I indicate my support of the purposes of the Association and agree to comply with the Association rules and any supplementary rules in effect.

Applicant's Signature: _____ **Date:** _____

Proposed By: _____ **Callsign:** _____ **Date:** _____

Seconded By: _____ **Callsign:** _____**Date:** _____

--ooOOoo--

Presented to Committee: _____ **Decision:** Accept / Reject

Fee Paid: $_____ **Date:** _____**Receipt No.** (if applicable:)_____

Entered into Membership Register:_____ **Secretary**: _____

BARG Form - Membership Application Form (was V3) Rev PA12.docx 1of 1